

CASE NO.: HSI920040054US1
Serial No.: 10/801,270
March 25, 2007
Page 2

PATENT
Filed: March 16, 2004

1. (currently amended) A hard disk drive (HDD), comprising:
at least one disk including plural disk portions;
at least one write element juxtaposed with the disk for writing data in at least some disk portions; and
a controller establishing at least one of: a write current, ~~and~~ or a kick amplitude, the write current and/or kick amplitude being associated with the write element for each head for each disk portion to establish an overwrite signal-to-noise ratio to be within a desired range.
2. (original) The HDD of Claim 1, wherein the controller establishes both a write current and a kick amplitude for each write element for each portion.
3. (original) The HDD of Claim 1, wherein the desired range is approximately -22db to -24 db.
4. (original) The HDD of Claim 1, wherein the controller accesses a table correlating write current and kick amplitude to head/portion combinations.
5. (original) The HDD of Claim 4, wherein the controller dynamically varies looked-up write currents and kick amplitudes.
6. (original) The HDD of Claim 5, wherein the write current and kick amplitudes are varied as a function of sensed temperature.

AMEND.000

CASE NO.: HSI920040054US1
Serial No.: 10/801,270
March 25, 2007
Page 3

PATENT
Filed: March 16, 2004

7. (currently amended) A chip for a hard disk drive (HDD) having at least one disk defining plural disk portions and at least one write element for writing data to the disk, comprising:

logic means for accessing a table correlating at least one write parameter to head/disk portion combinations; and

logic means for establishing, for at least one head/disk portion combination, at least one of: a write current, and or a kick amplitude.

8. (original) The chip of Claim 7, wherein the table correlates two write parameters to each head/portion combination.

9. (currently amended) The chip of Claim 7, wherein kick amplitude and write current ~~are established~~ to establish an overwrite signal-to-noise ratio within a desired range.

10. (original) The chip of Claim 7, comprising means for dynamically varying looked-up write currents and kick amplitudes.

11. (original) The chip of Claim 7, comprising means for dynamically varying looked-up write currents and kick amplitudes as a function of sensed temperature.

12. (currently amended) A chip for a HDD including at least one head and at least one disk juxtaposed with the head and defining plural disk portions, comprising:

AMEND.000

CASE NO.: HSJ920040054US1
Serial No.: 10/801,270
March 25, 2007
Page 4

PATENT
Filed: March 16, 2004

means for storing at least one value for each head for each disk portion which can be operably associated with written to by the head, the at least one value representing at least one of: baseline write current[[.]] and/or kick amplitude; and

means for using the value to generate a write current useful by for the head.

13. (original) The chip of Claim 12, wherein the HDD includes at least one temperature sensor, and the controller chip further comprises:

means for varying the value based on a signal from the temperature sensor to establish a temperature-corrected value; and

means for applying a signal characterized by the temperature-corrected value to the head.

14. (original) The chip of Claim 13, wherein the means for storing stores, for each head for each portion which can be operably associated with the head, a kick amplitude value and a baseline write current value.

15. (original) The chip of Claim 14, wherein the means for varying varies both values.

16. (currently amended) A logic element for a hard disk drive (HDD) having at least one disk defining plural disk portions and at least one write element for writing data to the disk, the logic element holding logic embodying method acts comprising:

AMEND.000

CASE NO.: HSJ920040054US1

Serial No.: 10/801,270

March 25, 2007

Page 5

PATENT

Filed: March 16, 2004

accessing a table correlating write currents and kick amplitudes to head/disk portion combinations; and

establishing, for at least one head/disk portion combination, at least one of: a write current[[,]] and/or a kick amplitude.

17. (original) The logic element of Claim 16, wherein the logic establishes both of a write current and a kick amplitude for each head/portion combination.

18. (currently amended) The logic element of Claim 17, wherein the kick amplitude and write current ~~are established to~~ establish an overwrite signal-to-noise ratio within a desired range.

19. (original) The logic element of Claim 17, wherein the logic comprises dynamically varying looked-up write currents and kick amplitudes.

20. (original) The logic element of Claim 17, wherein the logic comprises means for dynamically varying looked-up write currents and kick amplitudes as a function of sensed temperature.

21. (new) The HDD of Claim 6, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

AMEND.000

CASE NO.: HSJ920040054US1

Serial No.: 10/801,270

March 25, 2007

Page 6

PATENT

Filed: March 16, 2004

22. (new) The chip of Claim 11, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

23. (new) The chip of Claim 15, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

24. (new) The logic element of Claim 20, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

AMEND.001